

REMARKS

Amendments have been made to the specification and claims. New Claim 86 has been added. The amendments to the specification and the claims were made to further clarify and define the invention. Some amendments made to the claims are of a clerical, typographical or grammatical nature. It is submitted that the proposed amendments to the specification and claims do not constitute new matter.

In view of the foregoing, consideration and an early allowance of this application are earnestly solicited.

Respectfully submitted,

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VERSION WITH MARKED UP CHANGESIn the Specification:

Page 17, line 7 to Page 18, line 3.

The illustrative drive matrix 60 shown in FIG. 5 consists of a 2 X 5 drive matrix, where four column drivers drive the red and green emitters coupled to column lines and a single column driver drives the blue emitters coupled to column lines. A first column driver 62 drives the red emitter 44a and the green emitter 46a. The blue emitters 42a and 42b are tied together and driven by a second column driver 64. A third column driver 66 drives the green emitter 48a and the red emitter 50a, while a fourth column driver 68 drives the red emitter 44b and the green emitter 46b. The green emitter 48b and the red emitter 50b are driven by a fifth column driver 70. Alternative embodiments, using at least four three-color pixel elements with two row drivers and ten column drivers, are presented further herein.

The row drivers drive the red, green and blue emitters in each row line. Row driver 72 drives red emitters 44a and 44b, green emitters 48a and 48b, as well as blue emitter 42b. Row driver 74 drives green emitters 46a and 46b, red emitters 50a and 50b and blue emitter 42a. Each emitter can be driven at continuous luminance values at specific locations in a pixel element, unlike emitters in the prior art, which are driven at discrete luminance values at random locations in a three-color pixel element.

Page 19, line 13 to Page 20, line 14.

FIG. 7 is a diagram of an illustrative drive matrix 78 for the arrangement 76. The illustrative drive matrix 78 shown in FIG. 7 consists of a 2 X 10 drive matrix, where eight column drivers drive the eight red and eight green emitters coupled to column lines and two column drivers drive the four blue emitters coupled to column lines. A first column driver 94 drives the red emitter 52a and the green emitter 54a. The blue emitters 80a and 80c are tied together and driven by a second column driver 96. A third column driver 98 drives the green emitter 56a and the red emitter 58a, while a fourth column driver 100 drives the red emitter 52b and the green emitter 54b. A fifth column driver 102 drives the blue emitter 80b, which is tied together with 80d. The green emitter 56b and the red emitter 58b are driven by a sixth column driver 104, while a seventh column driver 106 drives red emitter 52c and green emitter 54c. An eighth column driver 108 drives green

emitter 56c and red emitter 58c, while a ninth column driver 110 drives red emitter 52d and green emitter 54d. Finally, a tenth column driver 112 drives green emitter 56d and red emitter 58d.

The row drivers drive the red, green and blue emitters in each [pixel]row line. Row driver 90 drives red emitters 52a, 52b, 52c, and 52d, green emitters 56a, 56b, 56c, and 56d, as well as blue emitters 80c and 80d. Row driver 92 drives green emitters 54a, 54b, 54c, and 54d, red emitters 58a, 58b, 58c, and 58d, and blue emitters 80a and 80b. Each emitter can be driven at continuous luminance values at specific locations in a pixel element, unlike emitters in the prior art, which are driven at discrete luminance values at random locations in a three-color pixel element.

Page 22, line 4 to Page 23, line 8.

FIG. 9 is a diagram of an illustrative drive matrix 116 for the three-color pixel element arrangement 114. The illustrative drive matrix 116 shown in FIG. 9 consists of a 2 X 10 drive matrix, where eight column drivers drive the eight red and eight green emitters coupled to column lines and two column drivers drive the four blue emitters coupled to column lines. A first column driver 140 drives the red emitter 120a and the green emitter 122a. The blue emitters 130a, 132a, 130c, and 132c are tied together and driven by a second column driver 142. A third column driver 144 drives the green emitter 124a and the red emitter 126a, while a fourth column driver 146 drives the red emitter 120b and the green emitter 122b. A fifth column driver 148 drives blue emitters 130b and 132b, which are tied together with 130d and 132d. The green emitter 124b and the red emitter 126b are driven by a sixth column driver 150, while a seventh column driver 152 drives red emitter 120c and green emitter 122c. An eighth column driver 154 drives green emitter 124c and red emitter 126c, while a ninth column driver 156 drives red emitter 120d and green emitter 122d. Finally, a tenth column driver 158 drives green emitter 124d and red emitter 126d.

The row drivers drive the red, green and blue emitters in each [pixel]row line. Row driver 160 drives red emitters 120a, 120b, 120c, and 120d, green emitters 124a, 124b, 124c, and 124d, as well as blue emitters 130c, 132c, 130d, and 132d. Row driver 162 drives green emitters 122a, 122b, 122c, and 122d, red emitters 126a, 126b, 126c, and 126d, and blue emitters 130a, 132a, 130b, and 132b. Each emitter can be driven at continuous luminance values at specific locations in a pixel element, unlike emitters in

the prior art, which are driven at discrete luminance values at random locations in a three-color pixel element.

Page 25, line 1 to Page 26, line 3.

FIG. 11 is a diagram of an illustrative drive matrix 166 for the three-color pixel element arrangement 164. The illustrative drive matrix 78 shown in FIG. 11 consists of a 2 X 10 drive matrix, where eight column drivers drive the eight red and eight green emitters coupled to column lines and two column drivers drive the four blue emitters coupled to column lines. A first column driver 178 drives the red emitter 170a and the green emitter 172a. The blue emitters 168a and 168c are tied together and driven by a second column driver 180. A third column driver 182 drives the green emitter 174a and the red emitter 176a, while a fourth column driver 184 drives the red emitter 170b and the green emitter 172b. A fifth column driver 186 drives the blue emitter 168b, which is tied together with 168d. The green emitter 174b and the red emitter 176b are driven by a sixth column driver 188, while a seventh column driver 190 drives red emitter 170c and green emitter 172c. An eighth column driver 192 drives green emitter 174c and red emitter 176c, while a ninth column driver 194 drives red emitter 170d and green emitter 172d. Finally, a tenth column driver 196 drives green emitter 174d and red emitter 176d.

The row drivers drive the red, green and blue emitters in each [pixel] row line. Row driver 198 drives red emitters 170a, 170b, 170c, and 170d, green emitters 174a, 174b, 174c, and 174d, as well as blue emitters 168c and 168d. Row driver 200 drives green emitters 172a, 172b, 172c, and 172d, red emitters 176a, 176b, 176c, and 176d, and blue emitters 168a and 168b. Each emitter can be driven at continuous luminance values at specific locations in a pixel element, unlike emitters in the prior art, which are driven at discrete luminance values at random locations in a three-color pixel element.

Page 28, line 8 to Page 29, line 16.

FIG. 13 is a diagram of an illustrative drive matrix 254 for the three-color pixel element arrangement 201 illustrated in FIG. 12. The illustrative drive matrix 254 shown in FIG. 13 consists of a 2 X 10 drive matrix, where eight column drivers drive the thirty-two red and eight green emitters coupled to column lines and two column drivers drive the ten blue emitters coupled to column lines. A first column driver 234 drives the red emitters 202a, 212a and the green emitters 204a, 214a. The blue emitters 210a, 220a are tied together with blue emitters 222a, 210c, 224a and are driven by a second column

driver 236. A third column driver 238 drives the green emitters 206a, 216a and the red emitters 208a, 218a, while a fourth column driver 240 drives the red emitters 202b, 212b and the green emitters 204b, 214b. A fifth column driver 242 drives the blue emitters 210b, 220b, which is tied together with 222b, 210d, 224b. The green emitters 206b, 216b and the red emitters 208b, 218b are driven by a sixth column driver 244, while a seventh column driver 246 drives red emitters 202c, 212c and green emitters 204c, 214c. An eighth column driver 248 drives green emitters 206c, 216c and red emitters 208c, 218c, while a ninth column driver 250 drives red emitters 202d, 212d and green emitters 204d, 214d. Finally, a tenth column driver 252 drives green emitters 206d, 216d and red emitters 208d, 218d.

The row drivers drive the red, green and blue emitters in each [pixel] row line. Row driver 226 drives red emitters 202a, 202b, 202c, and 202d, green emitters 206a, 206b, 206c, and 206d, as well as blue emitters 210a, 210b, 222a, 222b. Row driver 228 drives green emitters 204a, 204b, 204c, and 204d, red emitters 208a, 208b, 208c, and 208d, and blue emitters 210c, 210d. Row driver 230 drives red emitters 212a, 212b, 212c, and 212d, green emitters 216a, 216b, 216c, and 216d, as well as blue emitters 220a, 220b. Row driver 232 drives green emitters 214a, 214b, 214c, and 214d, red emitters 218a, 218b, 218c, and 218d, and blue emitters 224a, 224b. Each emitter can be driven at continuous luminance values at specific locations in a three-color pixel element, unlike emitters in the prior art, which are driven at discrete luminance values at random locations in a three-color pixel element.

In the Claims:

Please amend Claims 1, 7, 13, 18, 24, 28, 34, 38, 42, 47, 50, 56, 59, 63, 66, 72, 75, and 79 as follows:

1. (Amended) An array for a display, comprising:
 - a plurality of row positions[:]; and a plurality of column positions;
 - a plurality of three-color pixel elements, one of said three-color pixel elements disposed in each of said row positions and said column positions, each of said three-color pixel elements comprising:
 - a blue emitter disposed at a center of a square disposed at an origin of an X, Y coordinate system having a first, a second, a third, and a fourth quadrant, wherein said blue emitter is square-shaped;

a pair of red emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said second and said fourth quadrants, wherein said red emitters occupy a portion of said second and said fourth quadrants not occupied by said blue emitter, wherein said red emitters are generally square-shaped having truncated inwardly-facing corners forming edges parallel to sides of said blue emitter;

a pair of green emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said first and said third quadrants, wherein said green emitters occupy a portion of said first and said third quadrants not occupied by said blue emitter, wherein said green emitters are generally square-shaped having truncated inwardly-facing corners forming edges parallel to said sides of said blue emitter;

a pair of row lines associated with each said row position in said array, a first of said row lines coupled to said red emitters and to said green emitters in said row position disposed above said origin of said coordinate system in each of said three-color pixel elements and coupled to said blue emitters of every even pair of adjacent said three-color pixel elements in said row position, and a second of said row lines coupled to said red emitters and to said green emitters in said row position disposed below said origin of said coordinate system in each of said three-color pixel elements, and coupled to said blue emitters of every odd pair of adjacent said three-color pixel elements in said row position; and

three column lines associated with each said column position in said array, a first of said column lines coupled to said red emitters and to said green emitters in said column position disposed left of said origin of said rectangular coordinate system in each of said three-color pixel elements, a second of said column lines coupled to said blue emitter in said column position disposed at said origin of said rectangular coordinate system in each of said three-color pixel elements, and a third of said column lines coupled to said red emitters and to said green emitters in said column position disposed right of said origin of said rectangular coordinate system in each of said three-color pixel elements, wherein said second column line is coupled to said second column line of a next nearest neighboring said three-color pixel element.

7. (Amended) An array for a display, comprising:

a plurality of row positions[,] and a plurality of column positions;

a plurality of three-color pixel elements, one of said elements disposed in each of said row positions and said column positions, each of said three-color pixel elements comprising:

a blue emitter disposed at a center of a square disposed at an origin of an X, Y coordinate system having a first, a second, a third, and a fourth quadrant, wherein said blue emitter is square-shaped;

a pair of red emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said second and said fourth quadrants, wherein said red emitters occupy a portion of said second and said fourth quadrants not occupied by said blue emitter, wherein said red emitters are L-shaped;

a pair of green emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said first and said third quadrants, wherein said green emitters occupy a portion of said first and said third quadrants not occupied by said blue emitter, wherein said green emitters are L-shaped;

a pair of row lines associated with each said row position in said array, a first of said row lines coupled to said red emitters and to said green emitters in said row position disposed above said origin of said coordinate system in each of said three-color pixel elements and coupled to said blue emitters of every even pair of adjacent said three-color pixel elements in said row position, and a second of said row lines coupled to said red emitters and to said green emitters in said row position disposed below said origin of said coordinate system in each of said three-color pixel elements and coupled to said blue emitters of every odd pair of adjacent said three-color pixel elements in said row position; and

three column lines associated with each said column position in said array, a first of said column lines coupled to said red emitters and to said green emitters in said column position disposed left of said center of said square in each of said three-color pixel elements, a second of said column lines coupled to said blue emitter in said column position disposed at said center of said square in each of said three-color pixel elements, and a third of said column lines coupled to said red emitters and to said green emitters in said column position disposed right of said center of said square in each of said three-color pixel elements, wherein said second column line is coupled to said second column line of a next nearest neighboring said three-color pixel element.

13. (Amended) An array of three-color pixel elements, comprising:

an array row comprising first, second, third, and fourth three-color pixel elements, each three-color pixel element comprising a blue emitter disposed at a center of a square disposed at an origin of an X, Y coordinate system having a first, a second, a third, and a fourth quadrant, wherein said blue emitter is square-shaped, a pair of red emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said second and said fourth quadrants, wherein said red emitters occupy a portion of said second and said fourth quadrants not occupied by said blue emitter, wherein said red emitters are generally square-shaped having truncated inwardly-facing corners forming edges parallel to sides of said blue emitter, and a pair of green emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said first and said third quadrants, wherein said green emitters occupy a portion of said first and said third quadrants not occupied by said blue emitter, wherein said green emitters are generally square-shaped having truncated inwardly-facing corners forming edges parallel to said sides of said blue emitter;

first and second row line drivers coupled to said array row;

a first row line coupled to said first row line driver, said first row line coupled to said blue emitter of said third and said fourth three-color pixel elements and to [said]a first of said red emitters and [said]a first of said green emitters of said first, second, third, and fourth three-color pixel elements;

a second row line coupled to said second row line driver, said second row line coupled to said blue emitter of said first and said second three-color pixel elements and to [said]a second of said red emitters and [said]a second of said green emitters of said first, second, third, and fourth three-color pixel elements;

first through tenth column line drivers coupled to said three-color pixel elements;

a first column line coupled to said first column line driver, said first column line coupled to said first red emitter and said second green emitter of said first three-color pixel element;

a second column line coupled to said second column line driver, said second column line coupled to said blue emitter of said first three-color pixel element and to an eighth column line coupled to said blue emitter of said third three-color pixel element;

a third column line coupled to said third column line driver, said third column line coupled to said second red emitter and said first green emitter of said first three-color pixel element;

a fourth column line coupled to said fourth column line driver, said fourth column line coupled to said first red emitter and said second green emitter of said second three-color pixel element;

a fifth column line coupled to said fifth column line driver, said fifth column line coupled to said blue emitter of said second three-color pixel element and to an eleventh column line coupled to said blue emitter of said fourth three-color pixel element;

a sixth column line coupled to said sixth column line driver, said sixth column line coupled to said second red emitter and said first green emitter of said second three-color pixel element;

a seventh column line coupled to said seventh column line driver, said seventh column line coupled to said first red emitter and said second green emitter of said third three-color pixel element;

a ninth column line coupled to said eighth column line driver, said ninth column line coupled to said [first]second red emitter and said [second]first green emitter of said fourth three-color pixel element;

a tenth column line coupled to said ninth column line driver, said tenth column line coupled to said [second]first red emitter and said [first]second green emitter of said fourth three-color pixel element; and

a twelfth column line coupled to said tenth column line driver, said tenth column line coupled to said second red emitter and said first green emitter of said fourth three-color pixel element.

18. (Amended) An array of three-color pixel elements, comprising:

an array row comprising first, second, third, and fourth three-color pixel elements, each three-color pixel element comprising a blue emitter disposed at a center of a square disposed at an origin of an X, Y coordinate system having a first, a second, a third, and a fourth quadrant, wherein said blue emitter is square-shaped, a pair of red emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said second and said fourth quadrants, wherein said red emitters occupy a portion of said second and said fourth quadrants not occupied by said blue emitter,

wherein said red emitters are L-shaped, and a pair of green emitters spaced apart from said blue emitter and symmetrically disposed about said blue emitter in said first and said third quadrants, wherein said green emitters occupy a portion of said first and said third quadrants not occupied by said blue emitter, wherein said green emitters are L-shaped;

first and second row line drivers coupled to said array row;

a first row line coupled to said first row line driver, said first row line coupled to said blue emitter of said third and said fourth three-color pixel element and to [said]a first of said red emitters and [said]a first of said green emitters of said first, second, third, and fourth three-color pixel elements;

a second row line coupled to said second row line driver, said second row line coupled to said blue emitter of said first and said second three-color pixel element and to [said]a second of said red emitters and [said]a second of said green emitters of said first, second, third, and fourth three-color pixel elements;

first through tenth column line drivers coupled to said three-color pixel element;

a first column line coupled to said first column line driver, said first column line coupled to said first red emitter and said second green emitter of said first three-color pixel element;

a second column line coupled to said second column line driver, said second column line coupled to said blue emitter of said first three-color pixel element and to an eighth column line coupled to said blue emitter of said third three-color pixel element;

a third column line coupled to said third column line driver, said third column line coupled to said second red emitter and said first green emitter of said first three-color pixel element;

a fourth column line coupled to said fourth column line driver, said fourth column line coupled to said first red emitter and said second green emitter of said second three-color pixel element;

a fifth column line coupled to said fifth column line driver, said fifth column line coupled to said blue emitter of said second three-color pixel element and to an eleventh column line coupled to said blue emitter of said fourth three-color pixel element;

a sixth column line coupled to said sixth column line driver, said sixth column line coupled to said second red emitter and said first green emitter of said second three-color pixel element;

a seventh column line coupled to said seventh column line driver, said seventh column line coupled to said first red emitter and said second green emitter of said third three-color pixel element;

a ninth column line coupled to said eighth column line driver, said ninth column line coupled to said [first]second red emitter and said [second]first green emitter of said fourth three-color pixel element;

a tenth column line coupled to said ninth column line driver, said tenth column line coupled to said [second]first red emitter and said [first]second green emitter of said fourth three-color pixel element; and

a twelfth column line coupled to said tenth column line driver, said tenth column line coupled to said second red emitter and said first green emitter of said fourth three-color pixel element.

24. (Amended) The three-color pixel element of Claim 23, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

28. (Amended) An array for a display, comprising:

a plurality of array row positions[;]and a plurality of column positions;

a plurality of three-color pixel elements, one of said three-color pixel elements disposed in each of said row positions and said column positions, each of said three-color pixel elements comprising:

first and second pixel rows, each pixel row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row, wherein a green emitter occupies a left unit-area polygon in said second pixel row and a red emitter occupies a right unit-area polygon in said second pixel row, and wherein a blue emitter occupies a center unit-area polygon in both said first and said second pixel rows;

a plurality of row lines associated with each said row position in said array, a first of said row lines coupled to said blue emitter in said first pixel row, to said red emitters in said first pixel row and to said green emitters in said first pixel row in each of said three-color pixel elements in said array row position, wherein said first of said row lines is coupled to said blue emitters in said first pixel row of every even pair of adjacent said three-color pixel elements, and a second of said row lines coupled to said blue emitter in said second pixel row, to said red emitters in said second pixel row, and to said green emitters in said second pixel row in each of said three-color pixel elements in said array row position, wherein said second of said row lines is coupled to said blue emitters in said second row of every odd pair of adjacent said three-color pixel elements; and

a plurality of column lines associated with each said column position, a first of said column lines coupled to said red emitters and to said green emitters in said column position disposed left of said blue emitters in each of said three-color pixel elements, a second of said column lines coupled to said blue emitters in said column position disposed at said center of square in each of said three-color pixel elements, and a third of said column lines coupled to said red emitters and to said green emitters in said column position disposed right of said blue emitters in each of said three-color pixel elements, wherein said second column line is coupled to said second column line of a next nearest neighboring said three-color pixel element.

34. (Amended) The array of Claim 28, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

38. (Amended) An array of three-color pixel elements, comprising:

an array row comprising first, second, third, and fourth three-color pixel elements, each said three-color pixel element comprising first and second pixel rows, each pixel row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row, wherein a green emitter occupies a left unit-area polygon in said second pixel row and a red emitter occupies a right unit-area polygon in said second pixel row, and

wherein a blue emitter occupies a center unit-area polygon in both said first and said second pixel rows;

first and second row line drivers coupled to said array row;

a first row line coupled to said first row line driver, said first row line coupled to said blue emitters in said first pixel row of said third and said fourth three-color pixel element and to said red emitter and said green emitter in said first pixel row of said first, second, third, and fourth three-color pixel elements;

a second row line coupled to said second row line driver, said second row line coupled to said blue emitters in said second pixel row of said first and said second three-color pixel element and to said red emitter and said green emitter in said second pixel row of said first, second, third, and fourth three-color pixel elements;

first through tenth column line drivers coupled to said three-color pixel elements;

a first column line coupled to said first column line driver, said first column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said first pixel row of said first three-color pixel element;

a second column line coupled to said second column line driver, said second column line coupled to said blue emitters of said first three-color pixel element and to an eighth column line coupled to said blue emitters of said third three-color pixel element;

a third column line coupled to said third column line driver, said third column line coupled to said [second] red emitter in said second pixel row and said [first] green emitter in said first pixel row of said first three-color pixel element;

a fourth column line coupled to said fourth column line driver, said fourth column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said second pixel row of said second three-color pixel element;

a fifth column line coupled to said fifth column line driver, said fifth column line coupled to said blue emitters of said second three-color pixel element and to an eleventh column line coupled to said blue emitters of said fourth three-color pixel element;

a sixth column line coupled to said sixth column line driver, said sixth column line coupled to said [second] red emitter in said second pixel row and said [first] green emitter in said first pixel row of said second three-color pixel element;

a seventh column line coupled to said seventh column line driver, said seventh column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said second pixel row of said third three-color pixel element;

a ninth column line coupled to said eighth column line driver, said ninth column line coupled to said [first] red emitter in said second pixel row and said [second] green emitter in said first pixel row of said fourth three-color pixel element;

a tenth column line coupled to said ninth column line driver, said tenth column line coupled to said [second] red emitter in said first pixel row and said [first] green emitter in said second pixel row of said fourth three-color pixel element; and

a twelfth column line coupled to said tenth column line driver, said tenth column line coupled to said second red emitter and said first green emitter of said fourth three-color pixel element.

42. (Amended) The array of Claim 38, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

47. (Amended) The three-color pixel element of Claim 46, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

50. (Amended) An array for a display, comprising:

a plurality of array row positions[;] and a plurality of column positions;

a plurality of three-color pixel elements, one of said three-color pixel elements disposed in each of said row positions and said column positions, each of said three-color pixel elements comprising:

first and second pixel rows, each pixel row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row; wherein a green emitter

occupies a left unit-area polygon in said second pixel row and a red emitter occupies a right unit-area polygon in said second pixel row; and wherein a single blue emitter occupies both center unit-area polygons in said first and said second pixel rows;

a plurality of row lines associated with each said row position in said array, a first of said row lines coupled to said blue emitter, to said red emitters, and to said green emitters in said first pixel row in each of said three-color pixel elements in said array row position, wherein said first of said row lines is coupled to said blue emitters of every even pair of adjacent said three-color pixel elements, and a second of said row lines coupled to said blue emitter, to said red emitters, and to said green emitters in said second pixel row in each of said three-color pixel elements in said array row position, wherein said second of said row lines is coupled to said blue emitters of every odd pair of adjacent said three-color pixel elements; and

a plurality of column lines associated with each said column position in said array, a first of said column lines coupled to said red emitters and to said green emitters in said column position disposed left of said blue emitter in each of said three-color pixel elements, a second of said column lines coupled to said blue emitter in said column position in each of said three-color pixel elements, and a third of said column lines coupled to said red emitters and to said green emitters in said column position disposed right of said blue emitter in each of said three-color pixel elements, wherein said second column line is coupled to said second column line of a next nearest neighboring said three-color pixel element.

56. (Amended) The array of Claim 50, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

59. (Amended) An array of three-color pixel elements, comprising:

an array row comprising first, second, third, and fourth three-color pixel elements, each three-color pixel element comprising first and second pixel rows, each pixel row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row[;],

wherein a green emitter occupies a left unit-area polygon in said second pixel row and a red emitter occupies a right unit-area polygon in said second pixel row; and wherein a single blue emitter occupies both center unit-area polygons in said first and said second pixel rows;

first and second row line drivers coupled to said array row;

a first row line coupled to said first row line driver, said first row line coupled to said blue emitters of said third and said fourth three-color pixel element and to said red emitter and said green emitter in said first pixel row of said first, second, third, and fourth three-color pixel elements;

a second row line coupled to said second row line driver, said second row line coupled to said blue emitters of said first and said second three-color pixel element and to said red emitter and said green emitter in said second pixel row of said first, second, third, and fourth three-color pixel elements;

first through tenth column line drivers coupled to said three-color pixel elements;

a first column line coupled to said first column line driver, said first column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said second pixel row of said first three-color pixel element;

a second column line coupled to said second column line driver, said second column line coupled to said blue emitter of said first three-color pixel element and to an eighth column line coupled to said blue emitter of said third three-color pixel element;

a third column line coupled to said third column line driver, said third column line coupled to said [second] red emitter in said second pixel row and said [first] green emitter in said first pixel row of said first three-color pixel element;

a fourth column line coupled to said fourth column line driver, said fourth column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said second pixel row of said second three-color pixel element;

a fifth column line coupled to said fifth column line driver, said fifth column line coupled to said blue emitter of said second three-color pixel element and to an eleventh column line coupled to said blue emitter of said fourth three-color pixel element;

a sixth column line coupled to said sixth column line driver, said sixth column line coupled to said [second] red emitter in said second pixel row and said [first] green emitter in said first pixel row of said second three-color pixel element;

a seventh column line coupled to said seventh column line driver, said seventh column line coupled to said [first] red emitter in said first pixel row and said [second] green emitter in said second pixel row of said third three-color pixel element;

a ninth column line coupled to said eighth column line driver, said ninth column line coupled to said [first] red emitter in said second pixel row and said [second] green emitter in said first pixel row of said fourth three-color pixel element;

a tenth column line coupled to said ninth column line driver, said tenth column line coupled to said [second] red emitter in said first pixel row and said [first] green emitter in said second pixel row of said fourth three-color pixel element; and

a twelfth column line coupled to said tenth column line driver, said tenth column line coupled to said [second] red emitter in said second pixel row and said [first] green emitter in said first pixel row of said fourth three-color pixel element.

63. (Amended) The array of Claim 59, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

66. (Amended) An array for a display, comprising:

a plurality of array row positions[,] and a plurality of column positions;

a plurality of three-color pixel elements, one of said three-color pixel elements disposed in each of said array row positions and said column positions, wherein each of said three-color pixel elements comprises:

first and second pixel rows, each row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row; wherein a green emitter occupies a left unit-area polygon in said first pixel row and a red emitter occupies a right unit-area polygon in said first pixel row; and wherein a single blue emitter occupies both center unit-area polygons in said first and said second pixel rows;

wherein adjacent horizontal pairs of said three-color pixel elements are vertically offset from one another by one said pixel row;

a plurality of row lines associated with each said array row position,

wherein a first of said row lines is coupled to all said red and said green emitters in said first pixel row of each odd pair of said three-color pixel elements in each said array row position and to all said red and said green emitters in said second pixel row of each even pair of said three-color pixel elements in each said array row position, wherein said first of said row lines is coupled to said blue emitters of every odd pair of adjacent said three-color pixel elements;

wherein a second of said row lines is coupled to all said red and said green emitters in said second pixel row of each odd pair of said three-color pixel elements in each said array row position and to all said red and said green emitters in said first pixel row of each even pair of said three-color pixel elements in each said array row position, wherein said first of said row lines is coupled to said blue emitters of every even pair of adjacent said three-color pixel elements; and

a plurality of column lines associated with each said column position in said array;

wherein a first, a fourth, a seventh, and a tenth of said column lines is coupled to said red emitters and to said green emitters in said column position disposed left of said blue emitter in each of said three-color pixel elements;

wherein a second, a fifth, an eighth, and an eleventh of said column lines is coupled to said blue emitter in said column position in each of said three-color pixel elements, wherein said second of said column lines is coupled to said eighth of said column lines and wherein said fifth of said column lines is coupled to said eleventh of said column lines; and

wherein a third, a sixth, a ninth, and a twelfth of said column lines is coupled to said red emitters and to said green emitters in said column position disposed right of said blue emitter in each of said three-color pixel elements.

72. (Amended) The array of Claim 66, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.

75. (Amended) An array of three-color pixel elements, comprising:

a plurality of array rows and a plurality of array columns containing three-color pixel elements, each said three-color pixel element comprising first and second pixel rows, each pixel row including three unit-area polygons, wherein an emitter occupies each said unit-area polygon, wherein a red emitter occupies a left unit-area polygon in said first pixel row and a green emitter occupies a right unit-area polygon in said first pixel row; wherein a green emitter occupies a left unit-area polygon in said second pixel row and a red emitter occupies a right unit-area polygon in said second pixel row; and wherein a single blue emitter occupies both center unit-area polygons in said first and said second pixel rows;

wherein adjacent horizontal pairs of said three-color pixel elements are vertically offset from one another by one said pixel row;

first and second row line drivers coupled to said array row;

a first row line coupled to said first row line driver, wherein said first row line is coupled to all said red and said green emitters in said first pixel row of each odd pair of said three-color pixel elements in each said array row position and to all said red and said green emitters in said second pixel row of each even pair of said three-color pixel elements in each said array row position, wherein said first of said row lines is coupled to said blue emitters of every odd pair of adjacent said three-color pixel elements;

a second row line coupled to said second row line driver, wherein said second row line is coupled to all said red and said green emitters in said second pixel row of each odd pair of said three-color pixel elements in each said array row position and to all said red and said green emitters in said first pixel row of each even pair of said three-color pixel elements in each said array row position, wherein said first of said row lines is coupled to said blue emitters of every even pair of adjacent said three-color pixel elements; and

first through tenth column line drivers coupled to said three-color pixel elements;

a first column line coupled to said first column line driver, said first column line coupled to all left-most emitters of every said three-color pixel element in a first of said array columns;

a second column line coupled to said second column line driver, said second column line coupled to all center emitters of every said three-color pixel element

in a second of said array columns and to an eighth column line coupled to all center emitters of every said three-color pixel element in an eighth of said array columns;

a third column line coupled to said third column line driver, said third column line coupled to all right-most emitters of every said three-color pixel element in a third of said array columns;

a fourth column line coupled to said fourth column line driver, said fourth column line coupled to all left-most emitters of every said three-color pixel element in a fourth of said array columns;

a fifth column line coupled to said fifth column line driver, said fifth column line coupled to all center emitters of every said three-color pixel element in a fifth of said array columns and to an eleventh column line coupled to all center emitters of every said three-color pixel element in an eleventh of said array columns;

a sixth column line coupled to said sixth column line driver, said sixth column line coupled to all right-most emitters of every said three-color pixel element in a sixth of said array columns;

a seventh column line coupled to said seventh column line driver, said seventh column line coupled to all left-most emitters of every said three-color pixel element in a seventh of said array columns;

a ninth column line coupled to said eighth column line driver, said ninth column line coupled to all right-most emitters of every said three-color pixel element in a ninth of said array columns;

a tenth column line coupled to said ninth column line driver, said tenth column line coupled to all left-most emitters of every said three-color pixel element in a tenth of said array columns; and

a twelfth column line coupled to said tenth column line driver, said twelfth column line coupled to all right-most emitters of every said three-color pixel element in a twelfth of said array columns.

79. (Amended) The array of Claim 75, wherein said green emitter occupies [a]said left unit-area polygon in said first pixel row and said red emitter occupies [a]said right unit-area polygon in said first pixel row; and wherein said red emitter occupies [a]said left unit-area polygon in said second pixel row and said green emitter occupies [a]said right unit-area polygon in said second pixel row.